LED2-Matrix Display

LED2 Matrix Display

User Manual

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Revision	History	Date
-001	First Release.	09/2006
-011	New Release.	05/2008
-012	Updated LED_2 screenshots	10/2008
-013	Updated LED & UPS State Messages Configuration	01/2009
-014	Added: UPS standard variables	02/2009
-015	Added: SiteManager II variables	11/2011
-016	Added: Buzzer integrated	08/2012

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Contents

Introduction

Overview **4**

Display **4**

Configuration

LED-Matrix Configuration **8**

Configuring the sender **9**

Mode 1: Send UPS State and Data automatically 9

Mode 2: Send RCCMD Messages from UPS Events 10

Appendix **14**

Introduction

Overview

The LED Matrix is based on the CS121 web-adapter. Please, refer to the CS121 user manual for an explanation regarding the configuration of the network settings, event handling etc.. The CS121 user manual will be delivered with the LED Matrix or can be downloaded from our website: **CS121 User Manual**

This document describes the special features, which are unique to the LED Matrix, that do not pertain to the standard CS121 and provides instructions, how to operate the LED Matrix.

The LED Matrix is a remote display unit for relaying either UPS status and values or customized RCCMD messages, which can be operated via the ethernet. Any CS121 web-adapter and any other RCCMD 2 compatible products can send text messages and/or environmental data values to the LED Matrix and can add audible alarms for warnings, that require immediate attention (optional, SM-Buzz connected to AUX port only).

Display

Depending on the length of the LED Matrix display, from 4 up to 30 characters can be displayed at one-time. If the intended message is too long for the number of displayable characters, the message will be scrolled automatically through the display.

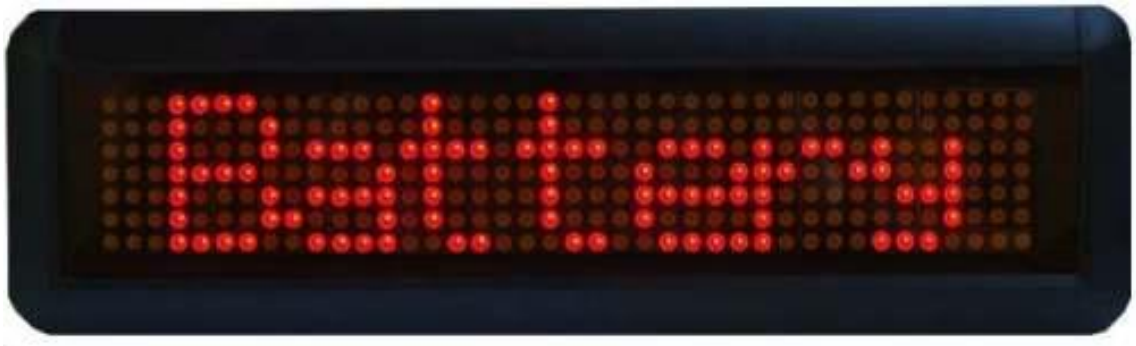


Figure: LED2-Matrix display, short version LED2_40

The desired messages can be either send from the CS121 devices in the network or via RCCMD of any other network enabled devices.

The LED Matrix is displaying the current text on the status site “LED Matrix”.

Figure: LED Display Status, Text and Buzzer Page

Use the button “Toggle Buzzer” to set the internal buzzer on or off.

The display will be refreshed all the time, so that the messages can always be monitored via web-browser.

For example: The text above is generated by the configuration site “Automatic Mode”, cleft 2, string: „UPS%n Output Frequency: %1.1Hz“.

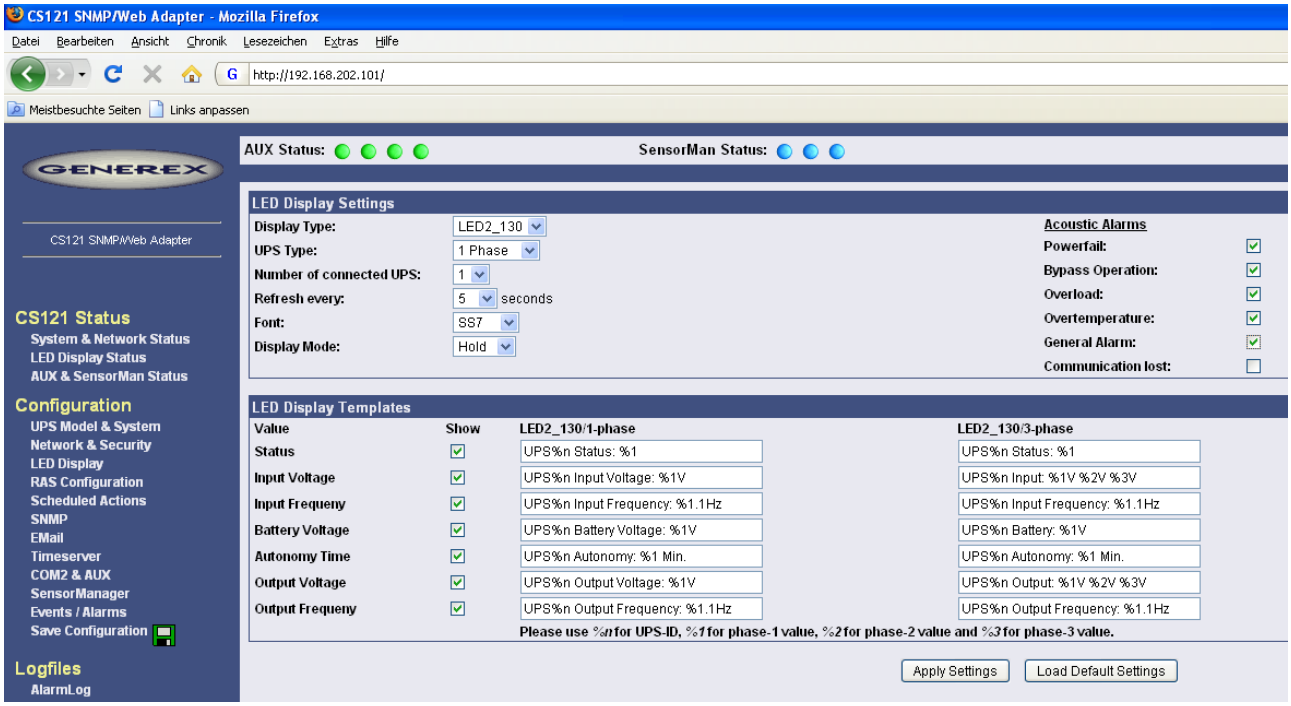


Figure: LED Matrix Display Settings & Templates

In the LED settings are the following options possible:

- Display Type – LED2_40 or LED2_130 – depends on LED type

- UPS Type – 1 or 3-phase, depends on connected sender type (1 or 3-phase UPS). **Note: We recommend to use the LED2_130 for 3phase UPS, because the LED2_40 is pre-configured for 1-phase UPS by default only.**
- Number of connected UPS – Number of connected UPS, this specifies how many CS121/UPSMAN are permitted to send messages (10 at most)
- Refresh Time in seconds – Definition of the term, how long a message will be displayed until the next will be
- Fonts – Default is SS7, more fonts are available
- Display Mode – Hold or flash

You can add audible alarms for the standard events like ***Powerfail, Bypass Operation, Overload, Overtemperature, General Alarm and Communication lost*** .

Optional: The GENEREX SM-Buzz can be connected to the AUX port of the LED Matrix. The alarm buzzer events are predefined. For further configuration information, please take a look into the **CS121 User Manual**

The default messages and measurement values of the automatic mode are displayed in the LED templates. You can modify them if necessary.

- Status - UPS%n Status: %1 (% is a variable, which can be replaced by the CS121 sender and its current measurement value)
- Input Voltage - UPS%n Input: %1V %2V %3V (if 3-phase)
- Input Frequency - UPS%n Input Frequency: %1.1Hz
- Battery Voltage - UPS%n Battery Voltage: %1V
- Autonomy Time - UPS%n Autonomy Time: %1 Min.
- Output Voltage - UPS%n Output Voltage: %1V
- Output Frequency - UPS%n Output Frequency: %1.1Hz

The firmware version 3.88 (or higher) contains a new configuration menu, that provides the option to configure the state in the desired language.

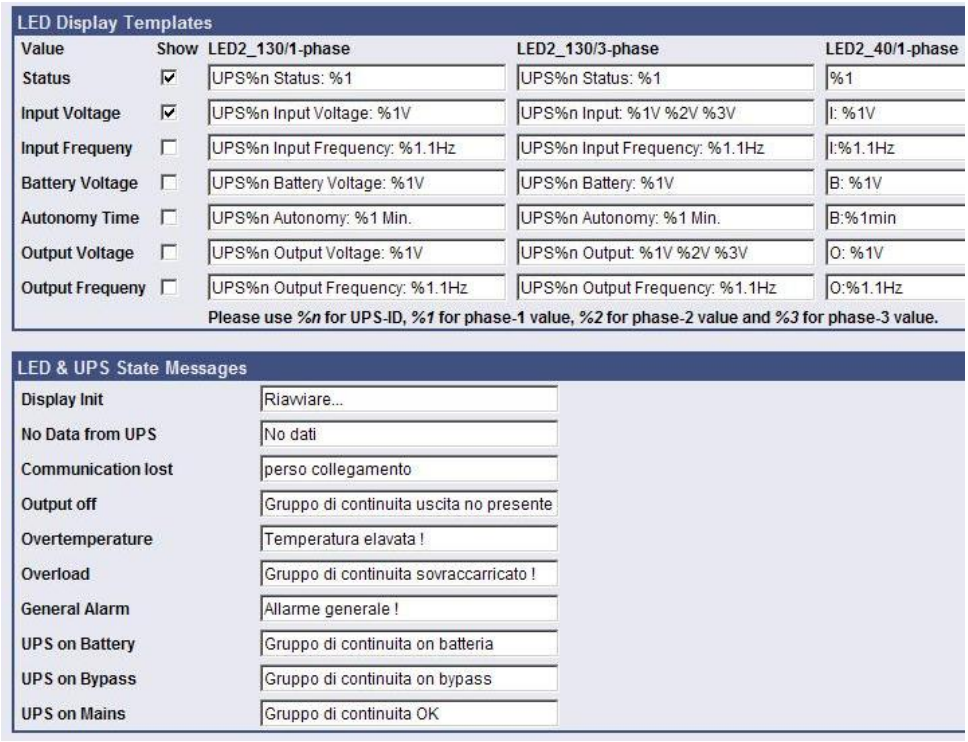


Figure: LED & UPS State Messages (italian)

During the sending of a message, the following will be registered in the log file of the CS121/UPSMAN sender:

RCCMD is connecting to 192.168.202.101:6002 (RccmdConn01)
RCCMD finished to send. OK (RccmdConn01)

Configuration

LED-Matrix Configuration

The first configuration step is to choose the ***LED Display*** in the ***UPS Model & System*** menu.

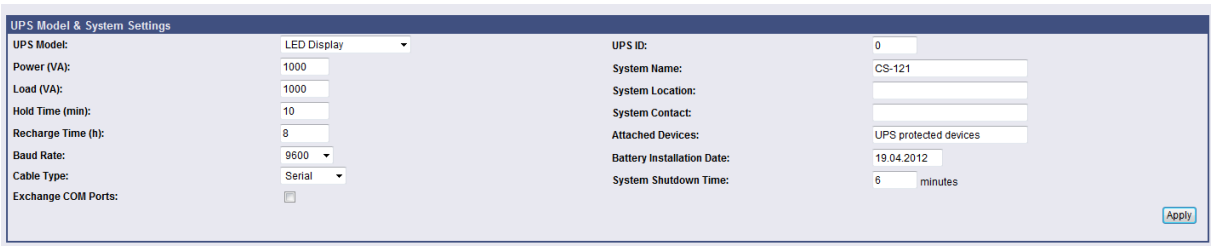


Figure: LED-Matrix UPS Model & System Page

Note: LED Matrix devices built before 08/2012 require the configuration items „Exchange COM Ports“ set as active. Devices after 08/2012 this function has to be disabled..

As second step follows the ***RCCMD Listener*** settings on the ***Network & Security*** Page.

The ***RCCMD Listener*** is enabled in the default configuration of the LED Matrix and its ***Port*** is set on ***6002***. It is recommended to keep this settings. The other configuration parameters should be adjusted to the local network settings using TELNET, a terminal program or a web-browser. Add the configuration route 10.10.10.10 (via “route add 10.10.10.10 ip-address of your local host).

For further setting information of the SNMP web-interface, please take a look into the **CS121 User Manual**

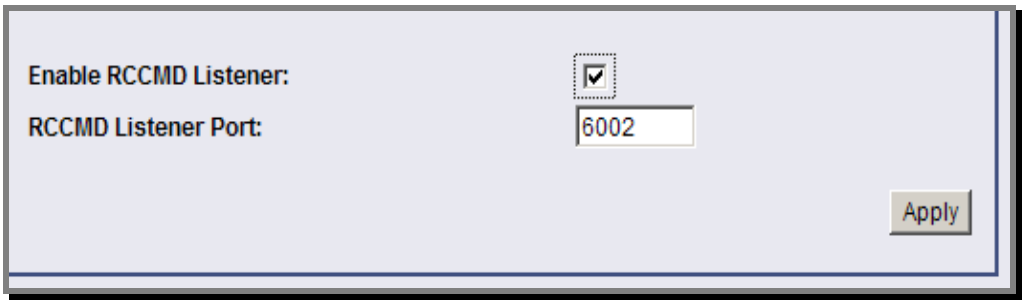


Figure: LED-Matrix Configuration Page

Configuring the sender

Note: You have to decide between one of the following modes.

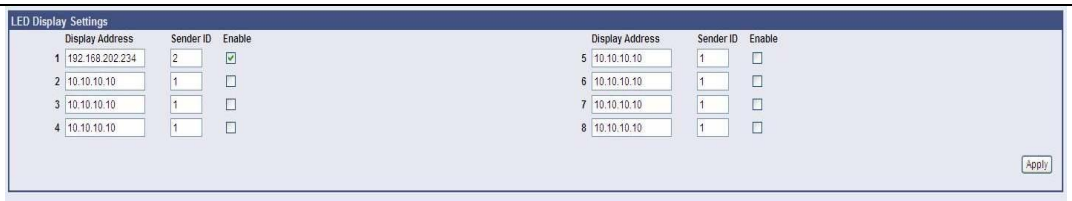
Do not connect senders in different modes to the same LED Matrix!

You can run the LED Matrix in Automatic Mode ***or*** either in the Manual Mode. We want to explain subsequent, how to set up the CS121 or rather the UPSMAN (as senders) and the LED Matrix. Every RCCMD sender (CS121, UPSMAN and any other kind of licenzed RCCMD senders) is able to send messages to the LED Matrix. Every RCCMD client is also able to send messages via scripting-language.

Mode 1: Send UPS State and Data automatically

In order to display the UPS status and measurement values in the LED Matrix, you need to set up the following configuration in the CS121 ***Network & Security*** configuration page of the web-interface. Note: These settings are for the CS121/UPSMAN senders **only** and not for the LED Matrix!

- Click the ***Enable LED Display Sender*** box
- Enter a unique Number in the range from 0 to 9 in the field ***LED Display Sender ID***. This Number is used to identify this device on the LED-Matrix
- Enter the IP Address of the LED-Matrix in the field ***LED Display Listener Address***



Note: Remember to click the ***Apply*** button to confirm your changes. After all changes are done, click the ***Save Configuration Page*** and click ***Save, Exit & Reboot.***

In this mode all data and measurement values of the UPS, which got the LED mode activated, will automatically displayed. For the use of the Automatic Mode is a firmware of 3.80 or higher required.

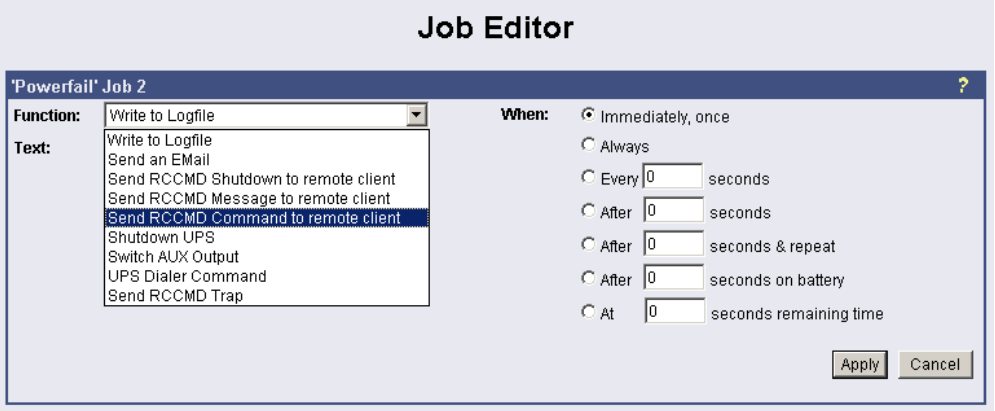
Mode 2: Send RCCMD Messages from UPS Events

Example: Configuring the CS121 to send event messages to the LED Matrix.

Set up the sender (CS121) manually with the text message and the accordant syntax as you can see below.

If you want to display the autonomy time of the UPS on the LED Matrix, you need to set up the following in the menu ***Events and Alarms*** / ***Powerfail***:

Click the ***Add new job*** button and select the function ***Send RCCMD Command to remote client.***



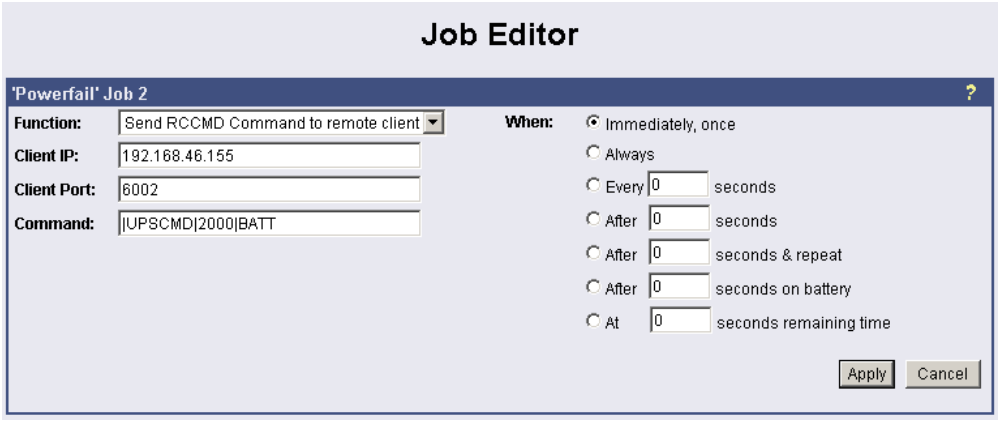
Set up the ip-address of the destination (LED Matrix) and the port 6002 into the job parameters. **Note:** 6003 is the default port, which is reserved for all the other RCCMD commands. As described before, the 6002 port is the default ***Listener port*** of the LED Matrix.

The command-line is the following:

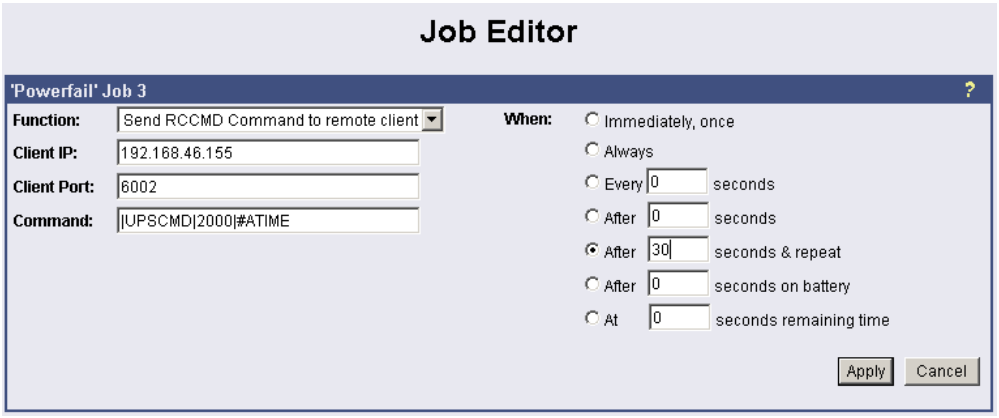
Examples:

1. “ `|UPSCMD|2000|Welcome to GENEREX "`: The text „Welcome to GENEREX“ will be displayed until an other text is received.

2. The configuration below will display the text „BATT“ directly and one-time in accordance to the selected circular button, after the UPS is in Battery Mode.



3. If you want to display further messages on the LED Matrix, click the ***Apply*** button to commit the current job and return to the event overview. Click the ***Add new job*** button and set up your desired job.



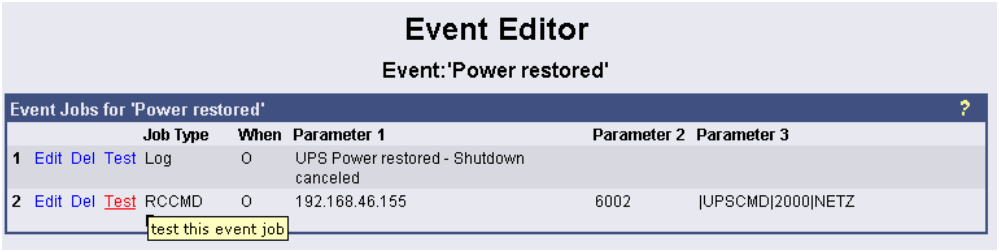
In the example above are the settings for the display of the variable #ATIME, the balance time of the batteries, recorded. This time will be displayed with a delay of 30 seconds in a 30 seconds interval. The balance time of the batteries are the "autonomy time in minutes". Please take a look into the Appendix (page 14), where you will see the UPS standard variables. If you want to add a text, e. g. a dimension unit, you can execute it, if you separate the command with a blank:

```
|UPSCMD|2000|#ATIME Minutes
```

4. To send an all-clear message to cancel an alarm like ***Power restored*** after a ***Powerfail***, just select the event ***Power restored*** in the event overview and record a suitable text like "Grid Okay".

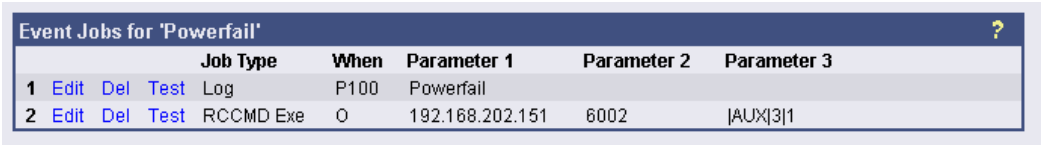
Note: Remember to click the ***Apply*** button to commit your changes every time. After all changes are done, click the ***Save & Exit and Reboot*** button in the ***Save Configuration*** menu.

Tests: If the CS121 is connected to the UPS, the green LED is flashing and the web-browser is displaying measurement values, tests can be started, like UPS in battery mode or to send test-signals out of the ***Events & Alarms*** section of the CS121/UPSMAN.

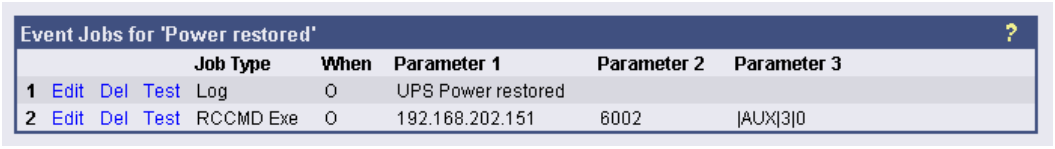

Event Editor
Event:'Power restored'
Event Jobs for 'Power restored'
Job Type When Parameter 1 Parameter 2 Parameter 3
1 Edit Del Test Log 0 UPS Power restored - Shutdown canceled
2 Edit Del Test RCCMD 0 192.168.46.155 6002 |UPSCMD|2000|NETZ
test this event job

5. **ALARM BUZZER**: Switching the alarm buzzer at the LED Matrix, a CS121 ***RCCMD execute signal*** is needed. Set up the destination (ip-address of the LED Matrix) and the port 6002. Use the syntax: "`|AUX|3|1`" to switch on, "`|AUX|3|0` " to switch off.

Buzzer ON:


Event Jobs for 'Powerfail'
Job Type When Parameter 1 Parameter 2 Parameter 3
1 Edit Del Test Log P100 Powerfail
2 Edit Del Test RCCMD Exe 0 192.168.202.151 6002 |AUX|3|1

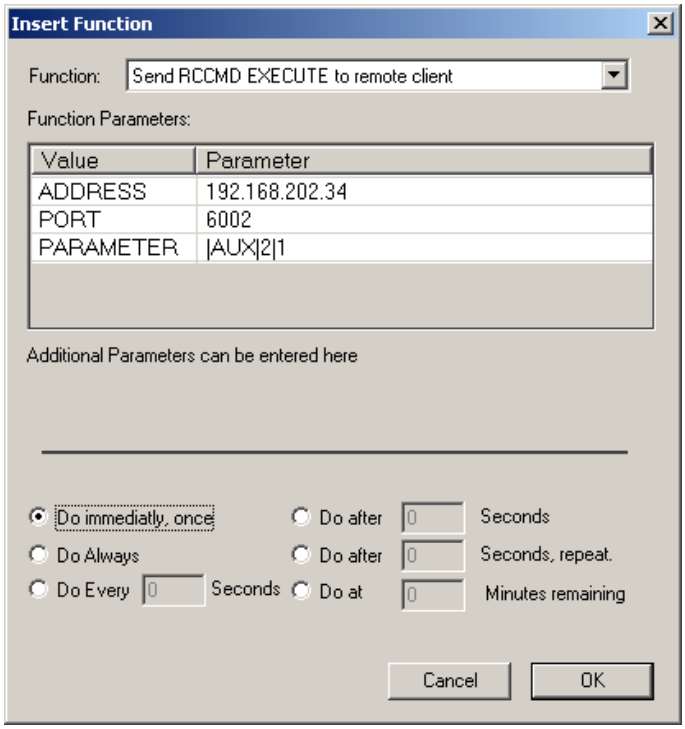
Buzzer OFF:


Event Jobs for 'Power restored'
Job Type When Parameter 1 Parameter 2 Parameter 3
1 Edit Del Test Log 0 UPS Power restored
2 Edit Del Test RCCMD Exe 0 192.168.202.151 6002 |AUX|3|0

Every RCCMD sender (CS121, UPSMAN and any other kind of licenzed RCCMD senders) is able to send messages to the LED Matrix. Every RCCMD client is also able to send messages via scripting-language. Use the RCCMD syntax to switch off:

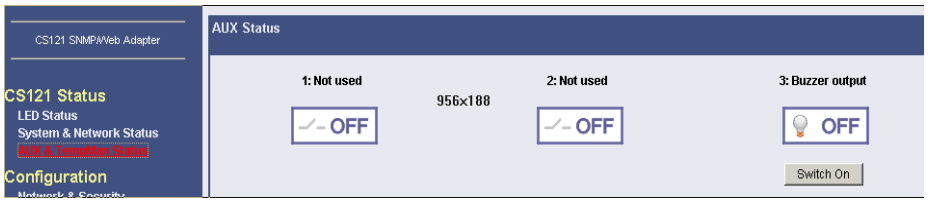
```
"rccmd -s -a <your LED MATRIX IP address> -p 6002 -se
"EXECUTE |AUX|1|0"
```

To switch on the alarm buzzer via UPSMAN software:



Please note, that every command is initiated with „|“

6. Try to test the alarm buzzer in the menu ***AUX & TEMPMAN Status*** with the ***Switch On*** buttons.



Do not connect several senders with different configurations to one LED Matrix! Basically the LED Matrix is running in the automatic mode OR the manually mode!

Every other settings of the LED Matrix according to the features of the CS121 – Please take a look into the **CS121 User Manual** for further information.

Appendix

UPS Standard Variables

#STATUS
#INVOLT0
#INVOLT1
#INVOLT2
#INCURR
#BATTVOLT
#TEMPDEG
#AUTONOMTIME
#BATTCAP
#OUTPOWER0 (Last in %)
#OUTPOWER1
#OUTPOWER2
#INFREQ0
#INFREQ1
#INFREQ2
#OUTFREQ0
#OUTFREQ1
#OUTFREQ2
#SECONBAT (Powerfail: seconds on battery)
#MANUFACTURER
#MODEL (defined value)
#LOCATION (defined value)
#ATTACHED_DEVICES (defined value)
#POWER (defined value)
#LOAD (defined value)
#HOLDTIME (defined value)
#RECHARGETIME (defined value)
#LOCALTIME ("dd.mm.yyyy hh:mm")
#DATE ("dd/mm/yyyy")
#TIME ("hh:mm")
#BATTINSTDATE ("dd.mm.yyyy")
#AGENTSOFTREV (Firmware Version)

#TEMP1 (SensorManager variables)
#TEMP2
#TEMP3
#TEMP4
#TEMP5
#TEMP6
#TEMP7
#TEMP8

#SM2_ANALOG0 (SiteManager II variables)
#SM2_ANALOG1
#SM2_ANALOG2
#SM2_ANALOG3
#SM2_ANALOG4
#SM2_ANALOG5
#SM2_ANALOG6
#SM2_ANALOG7

All other variables depend of the type of UPS. ATTENTION!!! The manually display mode is not provided for CS121 Budget adapters!